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George Lackman,
mmissioner of Agriculture,
ate of Montana,
lena, Montana 59601.

B. E. Ginther,
Chemist,
Agricultural Experiment Station,
Bozeman, Montana 59715.

COMMERCIAL FERTILIZER REPORT

Issued by
The Department of Agriculture, State of Montana, Helena, Montana
and
The Agricultural Experiment Station, Montana State University, Bozeman, Montana
(Micronutrients are reported beginning on Page 17)

NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	TOTAL NITROGEN		AVAILABLE PHOSPHORIC ACID (P_2O_5)		SOLUBLE POTASH (K_2O)	
			Claimed	Found	Claimed	Found	Claimed	Found
AMERICAN POTASH & CHEMICAL CORPORATION, A Subsidiary of Kerr-McGee Corporation, P. O. Box 25861, Oklahoma City, Oklahoma 73125.								
Trona								
0-0-60	Ronan	1288					60.0	60.0
BORDEN, INC., Chemical Division/Smith-Douglass, P. O. Box 419, Norfolk, Virginia 23501.								
Sacco								
0-46-0	Baker	213			46.0	45.9		
11-48-0	Baker	217	11.0	10.9	48.0	48.3		
18-46-0	Baker	216	18.0	17.9	46.0	46.0		
Pelleform								
11-35-6	Baker	215	11.0	11.3	35.0	36.0	6.0	6.2
CENTRAL FARMERS FERTILIZER CO., 100 S. Wacker Drive, Chicago, Illinois 60604.								
Tennessee Valley Authority								
30-10-0	Malta	177	30.0	30.6	10.0	10.2		
Central Farmers								
0-0-60	Billings	108					60.0	60.0
0-0-60	Kinsey	146					60.0	61.0
0-0-60	Glendive	193					60.0	60.5
0-0-60	Fairview	329					60.0	61.2
0-0-60	Townsend	1217					60.0	61.0
0-45-0	Billings	109			45.0	44.4		
0-45-0	Malta	176			45.0	45.8		

(continued)

Deficient Beyond Tolerance - Underscored
Not Registered - *

NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	TOTAL NITROGEN Claimed	TOTAL NITROGEN Found	AVAILABLE PHOSPHORIC ACID (P_2O_5) Claimed	AVAILABLE PHOSPHORIC ACID (P_2O_5) Found	SOLUBLE POTASH (K_2O) Claimed	SOLUBLE POTASH (K_2O) Found
CENTRAL FARMERS FERTILIZER COMPANY (Continued)								
11-48-0	Billings	134	11.0	11.1	48.0	48.6		
11-48-0	Malta	168	11.0	11.0	48.0	48.8		
11-48-0	Shelby	1136	11.0	11.1	48.0	48.5		
11-48-0	Brady	1170	11.0	11.1	48.0	48.2		
11-48-0	Conrad	1259	11.0	11.2	48.0	48.1		
16-20-0	Billings	132	16.0	16.3	20.0	20.2		
16-20-0	Forsyth	282	16.0	16.1	20.0	20.7		
16-20-0	Chinook	1118	16.0	16.0	20.0	21.0		
16-20-0	Shelby	1138	16.0	16.1	20.0	21.4		
16-20-0	Conrad	1258	16.0	16.1	20.0	21.4		
18-46-0	Billings	110	18.0	18.4	46.0	46.5		
18-46-0	Billings	133	18.0	18.3	46.0	46.2		
18-46-0	Malta	174	18.0	18.3	46.0	46.5		
18-46-0	Malta	175	18.0	18.3	46.0	46.8		
18-46-0	Miles City	221	18.0	18.3	46.0	46.5		
18-46-0	Brady	1169	18.0	18.3	46.0	46.3		
18-46-0	Dutton	1266	18.0	18.2	46.0	47.2		
21-0-0	Billings	106	21.0	21.0				
23-23-0	Harlem	167	23.0	22.8	23.0	24.0		
23-23-0	Shelby	1137	23.0	22.2	23.0	25.2		
27-14-0	Malta	169	27.0	27.7	14.0	14.0		
27-14-0	Miles City	222	27.0	27.5	14.0	14.4		
27-14-0	Chinook	1117	27.0	27.1	14.0	15.4		
27-14-0	Shelby	1139	27.0	26.9	14.0	15.9		
33.5-0-0	Billings	107	33.5	34.3				
33.5-0-0	Malta	178	33.5	34.0				
33.5-0-0	Townsend	1018	33.5	34.2				
33.5-0-0	Dutton	1265	33.5	34.2				
34-0-0	Billings	131	34.0	34.1				
34-0-0	Malta	170	34.0	34.0				
34-0-0	Forsyth	284	34.0	34.2				
34-0-0	Chinook	1119	34.0	34.2				
CHEVRON CHEMICAL CO., Ortho Division, 940 Hensley, Richmond, California 94804.								
Ortho-Gro								
16-16-16	Billings	260	16.0	16.0	16.0	16.2	16.0	15.5
22-4-4	Grt.Falls	1073	22.0	22.2	4.0	5.9	4.0	4.0

(continued)

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Not Registered - *

NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	TOTAL NITROGEN		AVAILABLE PHOSPHORIC ACID (P_2O_5)		SOLUBLE POTASH (K_2O)	
			Claimed	Found	Claimed	Found	Claimed	Found
CHEVRON CHEMICAL CO. (Continued)								
Ortho Unipel								
16-16-16	Hamilton	1049	16.0	16.0	16.0	16.1	16.0	16.3
22-22-0	Hysham	100	22.0	22.1	22.0	21.8		
22-22-0	Billings	120	22.0	22.1	22.0	21.6		
22-22-0	Absarokee	250	22.0	21.5	22.0	22.2		
22-22-0	Billings	263	22.0	21.5	22.0	22.0		
22-22-0	Edgar	276	22.0	21.7	22.0	22.2		
22-22-0	Hamilton	1051	22.0	22.0	22.0	21.8		
22-22-0	Dillon	1207	22.0	21.4	22.0	22.5		
27-12-0	Hysham	96	27.0	26.8	12.0	12.3		
27-12-0	Billings	121	27.0	26.9	12.0	12.1		
27-12-0	Absarokee	248	27.0	26.9	12.0	12.3		
27-12-0	Billings	264	27.0	26.5	12.0	12.0		
27-12-0	Edgar	277	27.0	26.7	12.0	12.0		
27-12-0	Hamilton	1048	27.0	26.6	12.0	12.0		
27-12-0	Denton	1089	27.0	26.9	12.0	12.3		
27-12-0	Stevens-ville	1193	27.0	26.6	12.0	12.4		
27-12-0	Dillon	1206	27.0	26.5	12.0	12.4		
Ortho								
0-45-0	Hysham	95			45.0	45.6		
0-45-0	Billings	118			45.0	44.5		
0-45-0	Rapelje	240			45.0	44.3		
0-45-0	Billings	259			45.0	44.9		
11-48-0	Hysham	97	11.0	11.3	48.0	48.5		
16-20-0	Hysham	99	16.0	16.3	20.0	19.6		
16-20-0	Billings	119	16.0	16.2	20.0	19.4		
16-20-0	Billings	261	16.0	16.0	20.0	20.0		
16-20-0	Stevens-ville	1192	16.0	16.0	20.0	21.0		
18-46-0	Billings	123	18.0	17.9	46.0	46.0		
18-46-0	Billings	262	18.0	17.7	46.0	45.6		
18-46-0	Hamilton	1050	18.0	17.6	46.0	46.5		
18-46-0	Stevens-ville	1194	18.0	17.9	46.0	46.5		
18-46-0	Hamilton	1195	18.0	17.7	46.0	46.0		
18-46-0	Kalispell	1277	18.0	18.2	46.0	46.2		
33.5-0-0	Hysham	98	33.5	34.2				
33.5-0-0	Billings	122	33.5	34.2				
33.5-0-0	Billings	257	33.5	33.5				
33.5-0-0	Fairfield	1145	33.5	33.8				
33.5-0-0	Fairfield	1236	33.5	34.2				
34-0-0	Kalispell	1276	34.0	34.3				
34-0-0	Rapelje	239	34.0	34.1				
34-0-0	Absarokee	249	34.0	34.0				

(continued)

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CHEVRON CHEMICAL CO. (Continued)								
34-0-0	Lewistown	1096	34.0	34.0				
34-0-0	Kalispell	1178	34.0	34.1				
34-0-0	Kalispell	1179	34.0	34.2				
34-0-0	Dillon	1232	34.0	34.2				
34-0-0	Ronan	1287	34.0	34.2				
COLLIER CARBON AND CHEMICAL CORPORATION, 461 South Boylston Street, Los Angeles, California 90017.								
Brea 0-45-0	Harlem	163			45.0	45.6		
0-45-0	Helena	1044			45.0	44.8		
11-48-0	Merri-weather	1245	11.0	11.6	48.0	48.3		
16-20-0	Harlem	165	16.0	16.0	20.0	19.5		
16-20-0	Helena	1043	16.0	15.0	20.0	25.8		
18-46-0	Harlem	164	18.0	17.8	46.0	46.8		
34-0-0	Harlem	166	34.0	34.1				
34-0-0	Fort Benton	1113	34.0	34.0				
34-0-0	Fort Benton	1114	34.0	34.1				
COMINCO AMERICAN INCORPORATED, West 818 Riverside Avenue, Spokane, Washington 99201.								
Elephant 0-0-60	Miles City	162					60.0	60.0
0-45-0	Ashlot	1148			45.0	45.0		
0-46-0	Wibaux	209			46.0	45.5		
8-24-0	Cut Bank	2020	8.0	8.4	24.0	24.4		
8-32-16	Wibaux	211	8.0	9.4	32.0	32.8	16.0	14.5
10-0-0	Billings	105	10.0	9.0				
11-48-0	Harlowton	24	11.0	11.6	48.0	45.8		
11-48-0	Glendive	197	11.0	11.4	48.0	48.3		
11-55-0	Glendive	198	11.0	11.4	55.0	55.0		
11-55-0	Belgrade	1041	11.0	11.2	55.0	53.5		
11-55-0	Ashlot	1147	11.0	11.4	55.0	55.1		
16-20-0	Harlowton	21	16.0	16.9	20.0	20.4		
16-20-0	Kalispell	1182	16.0	16.0	20.0	20.3		
16-20-0	Ronan	1184	16.0	16.3	20.0	20.1		
16-20-0	Kalispell	1275	16.0	16.6	20.0	20.7		
16-20-0	Kalispell	1278	16.0	16.1	20.0	20.0		

(continued)

Deficient Beyond Tolerance - Underscored
Not Registered - *

NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	TOTAL NITROGEN Claimed	TOTAL NITROGEN Found	AVAILABLE PHOSPHORIC ACID (P_2O_5) Claimed	AVAILABLE PHOSPHORIC ACID (P_2O_5) Found	SOLUBLE POTASH (K_2O) Claimed	SOLUBLE POTASH (K_2O) Found
COMINCO AMERICAN INCORPORATED (Continued)								
18-46-0	Harlowton	23	18.0	18.5	46.0	45.0		
18-46-0	Miles City	158	18.0	18.1	46.0	45.9		
18-46-0	Bridger	272	18.0	18.0	46.0	46.8		
18-46-0	Ulm	1177	18.0	18.1	46.0	46.3		
18-46-0	Ronan	1186	18.0	18.2	46.0	46.4		
18-46-0	Valier	1252	18.0	17.8	46.0	46.0		
18-46-0	Conrad	1262	18.0	17.8	46.0	46.5		
18-46-0	Ronan	1286	18.0	17.9	46.0	46.4		
21-0-0	Hardin	66	21.0	20.9				
21-0-0	Miles City	161	21.0	21.0				
21-0-0	Ronan	1071	21.0	20.9				
21-0-0	Ronan	1185	21.0	21.0				
21-0-0	Ronan	1289	21.0	21.0				
27-14-0	Harlowton	22	27.0	27.2	14.0	15.1		
27-14-0	Deer Lodge	1027	27.0	28.1	14.0	13.9		
27-14-0	Kalispell	1183	27.0	26.7	14.0	15.4		
27-14-0	Deer Lodge	1189	27.0	25.2	14.0	18.4		
27-14-0	Kalispell	1274	27.0	27.4	14.0	14.0		
28-14-0	Deer Lodge	1233	28.0	27.9	14.0	15.0		
33.5-0-0	Rapelje	241	33.5	34.2				
34-0-0	Terry	192	34.0	33.7				
34-0-0	Bridger	273	34.0	34.2				
34-0-0	Ashlot	1149	34.0	34.1				
34-0-0	Kalispell	1273	34.0	34.2				
CO-OP SUPPLY, Ronan, Montana 59864.								
17.5-23-15 (Blend)	Ronan	2014	17.5	20.7	23.0	27.6	15.0	6.75
EL PASO PRODUCTS COMPANY, P. O. Box 3986, Odessa, Texas 79760.								
El Paso Products 0-45-0	Hardin	68			45.0	44.8		
ENJAY CHEMICAL COMPANY, 60 West 49th Street, New York, New York 10020.								
Terico 27-14-0	Bozeman	2021	27.0	27.7	14.0	13.8		

(continued)

Deficient Beyond Tolerance - Underscored
Not Registered - *

NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	TOTAL NITROGEN Claimed	TOTAL NITROGEN Found	AVAILABLE PHOSPHORIC ACID (P_2O_5) Claimed	AVAILABLE PHOSPHORIC ACID (P_2O_5) Found	SOLUBLE POTASH (K_2O) Claimed	SOLUBLE POTASH (K_2O) Found
ENJAY CHEMICAL COMPANY (Continued)								
Engro								
11-48-0	Billings	129	11.0	11.0	48.0	49.4		
11-48-0	Saco	180	11.0	10.9	48.0	50.2		
11-48-0	Chester	1130	11.0	11.2	48.0	49.2		
11-48-0	Shelby	1140	11.0	11.5	48.0	49.4		
11-48-0	Valier	1253	11.0	11.1	48.0	48.0		
16-20-0	Billings	130	16.0	16.3	20.0	20.4		
16-20-0	Forsyth	283	16.0	16.5	20.0	21.1		
16-20-0	Chinook	1115	16.0	16.1	20.0	21.4		
16-20-0	Kalispell	1180	16.0	16.7	20.0	20.6		
16-20-0	Stevensville	1197	16.0	16.1	20.0	20.7		
16-20-0	Lewistown	1214	16.0	16.3	20.0	20.6		
16-20-0	Conrad	1260	16.0	15.9	20.0	20.0		
18-46-0	Billings	127	18.0	18.4	46.0	46.3		
18-46-0	Townsend	1019	18.0	18.0	46.0	45.2		
18-46-0	Lewistown	1097	18.0	18.3	46.0	46.3		
18-46-0	Chinook	1124	18.0	18.1	46.0	46.7		
18-46-0	Chester	1131	18.0	18.3	46.0	47.2		
18-46-0	Fairfield	1143	18.0	18.2	46.0	46.7		
18-46-0	Power	1171	18.0	18.2	46.0	46.3		
18-46-0	Stevensville	1198	18.0	18.1	46.0	46.3		
18-46-0	Townsend	1216	18.0	18.3	46.0	47.0		
18-46-0	Fairfield	1238	18.0	18.2	46.0	45.9		
23-23-0	Billings	128	23.0	23.0	23.0	23.8		
23-23-0	Townsend	1020	23.0	21.1	23.0	27.5		
27-14-0	Billings	125	27.0	27.2	14.0	15.2		
27-14-0	Lewistown	1090	27.0	27.2	14.0	14.7		
27-14-0	Moore	1303	27.0	26.5	14.0	16.9		
34-0-0	Billings	126	34.0	34.2				
34-0-0	Saco	179	34.0	34.0				
34-0-0	Forsyth	226	34.0	34.1				
34-0-0	Belgrade	1040	34.0	34.1				
34-0-0	Lewistown	1091	34.0	34.3				
34-0-0	Carter	1111	34.0	34.0				
34-0-0	Shelby	1141	34.0	34.1				
34-0-0	Power	1173	34.0	34.2				
34-0-0	Stevensville	1196	34.0	34.2				
34-0-0	Townsend	1219	34.0	34.4				
34-0-0	Fairfield	1237	34.0	34.3				

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EQUITY SUPPLY CO. NO. 2, Kalispell, Montana 59901.								
25.5-12.26-0 (Blend)	Kalispell	2011	25.5	23.41	12.26	14.31		
FARMERS UNION CENTRAL EXCHANGE, INC., 1185 North Concord Street, So. St. Paul, Minnesota 55075.								
Farmers Union Central Exchange								
0-45-0	Richland	88			45.0	44.9		
0-45-0	Hysham	93			45.0	45.1		
0-45-0	Wordan	103			45.0	44.6		
0-45-0	Broadview	140			45.0	44.4		
0-45-0	Kinsey	147			45.0	43.4		
0-45-0	Hinsdale	184			45.0	45.4		
0-45-0	Columbus	244			45.0	45.7		
0-45-0	Valier	1163			45.0	45.0		
11-48-0	Richland	84	11.0	11.0	48.0	47.5		
11-48-0	Conrad	1263	11.0	11.3	48.0	48.5		
16-20-0	Richland	87	16.0	15.9	20.0	20.2		
16-20-0	Kinsey	145	16.0	16.4	20.0	20.6		
16-20-0	Hinsdale	189	16.0	16.3	20.0	20.1		
16-20-0	Columbus	243	16.0	17.0	20.0	18.6		
18-46-0	Richland	86	18.0	18.3	46.0	46.0		
18-46-0	Hysham	94	18.0	18.4	46.0	46.2		
18-46-0	Worden	104	18.0	18.2	46.0	46.4		
18-46-0	Broadview	142	18.0	18.2	46.0	46.0		
18-46-0	Kinsey	148	18.0	18.1	46.0	45.9		
18-46-0	Hinsdale	188	18.0	18.2	46.0	46.2		
18-46-0	Glendive	195	18.0	18.1	46.0	46.6		
18-46-0	Columbus	246	18.0	17.8	46.0	46.0		
18-46-0	Fairview	326	18.0	18.2	46.0	47.0		
18-46-0	Fairview	330	18.0	18.3	46.0	45.8		
18-46-0	Valier	1165	18.0	18.2	46.0	46.2		
21-0-0	Hinsdale	187	21.0	20.9				
21-0-0	Glendive	194	21.0	20.9				
21-0-0	Fairview	327	21.0	21.0				
23-23-0	Richland	85	23.0	23.0	23.0	23.4		
27-14-0	Kinsey	143	27.0	28.1	14.0	12.8		
27-14-0	Columbus	247	27.0	27.0	14.0	14.0		
30-10-0	Hinsdale	186	30.0	30.7	10.0	10.2		
33.5-0-0	Richland	89	33.5	34.1				
33.5-0-0	Hysham	92	33.5	34.2				
33.5-0-0	Worden	102	33.5	34.0				
33.5-0-0	Kinsey	144	33.5	33.8				

(continued)

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FARMERS UNION CENTRAL EXCHANGE, INC. (Continued)								
33.5-0-0	Hinsdale	185	33.5	34.0				
33.5-0-0	Glendive	196	33.5	33.9				
33.5-0-0	Fairview	328	33.5	34.1				
33.5-0-0	Valier	1164	33.5	34.2				
34-0-0	Broadview	141	34.0	34.1				
34-0-0	Columbus	245	34.0	34.0				
34-0-0	Conrad	1261	34.0	34.3				
FARMERS UNION SUPPLY, Kalispell, Montana 59901.								
17.67-13.33-0 (Blend)	Kalispell	2013	17.67	18.0	13.33	17.3		
GULF OIL CORPORATION, Gulf Building, Pittsburgh, Pennsylvania 15230.								
Mr. Green								
0-45-0	Absarokee	35			45.0	43.2		
15-42-6	Stanford	1098	15.0	15.5	42.0	42.9	6.0	5.25
16-20-0	Absarokee	36	16.0	16.5	20.0	19.4		
30-10-0	Absarokee	34	30.0	29.5	10.0	11.6		
30-10-0	Ashlot	1150	30.0	29.4	10.0	11.1		
Mr. N								
33.5-0-0	Hardin	64	33.5	34.2				
33.5-0-0	Chinook	1116	33.5	33.5				
HI-LINE FERTILIZER, Hingham, Montana 59528.								
10-33-0	Hingham	*2009	10.0	9.8	33.0	33.7		
10-33-0	Shelby	*2019	10.0	9.8	33.0	33.7		
INTERNATIONAL MINERALS AND CHEMICAL CORPORATION, 5401 Old Orchard Road, Skokie, Illinois 60076.								
International Minerals & Chemicals								
0-0-60	Power	1172					60.0	61.5
0-0-60	Fairfield	1240					60.0	61.0
0-0-60	Conrad	1264					60.0	61.0
0-0-60.8	Fairfield	*1146					60.8	61.0

Deficient Beyond Tolerance - Underscored
Not Registered - *

NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	TOTAL NITROGEN Claimed	TOTAL NITROGEN Found	AVAILABLE PHOSPHORIC ACID (P_2O_5) Claimed	AVAILABLE PHOSPHORIC ACID (P_2O_5) Found	SOLUBLE POTASH (K_2O) Claimed	SOLUBLE POTASH (K_2O) Found
KAISER ALUMINUM & CHEMICAL SALES, INC., Wendover, Utah 84083.								
0-0-60	Billings	*115					60.0	60.5
KALIUM CHEMICALS LTD., Regina, Saskatchewan, Canada.								
0-0-62	Baker	*151					62.0	62.0
0-0-62	Baker	*324					62.0	62.5
0-0-62	Gt.Falls	*1338					62.0	61.9
FRED MEYER, Portland, Oregon 97200.								
Turf King 4-10-8	Kalispell	*2010	4.0	4.4	10.0	10.4	8.0	9.5
NATIONAL FERTILIZER DEVELOPMENT CENTER, Tennessee Valley Authority, Muscle Shoals, Alabama.								
15-61-0	Baker	*149	15.0	14.9	61.0	61.9		
NORTHLAND CHEMICAL COMPANY, Box 590, East Grand Forks, Minnesota 56721.								
Super Q 16-20-5	Wibaux	208	16.0	15.7	20.0	22.3	5.0	5.8
NORTHRUP, KING & CO., 1500 Jackson Street, N.E., Minneapolis, Minnesota 55413.								
Golf 12-3-5	Billings	237	12.0	14.2	3.0	3.3	5.0	7.5
22-6-3	Billings	236	22.0	20.2	6.0	7.3	3.0	4.2
22-6-3	Billings	238	22.0	20.6	6.0	8.1	3.0	5.0

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NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	TOTAL NITROGEN Claimed	TOTAL NITROGEN Found	AVAILABLE PHOSPHORIC ACID (P_2O_5) Claimed	AVAILABLE PHOSPHORIC ACID (P_2O_5) Found	SOLUBLE POTASH (K_2O) Claimed	SOLUBLE POTASH (K_2O) Found
NORTHWEST NITRO-CHEMICALS SALES LTD., P. O. Box 310, Medicine Hat, Alberta, Canada.								
Northwest Nitro-Chemicals								
0-46-0	Billings	137			46.0	47.6		
10-30-10	Wibaux	206	10.0	11.1	30.0	32.3	10.0	9.0
11-48-0	Billings	136	11.0	11.1	48.0	47.8		
11-48-0	Fort Benton	1086	11.0	11.0	48.0	49.0		
11-48-0	Chinook	1123	11.0	11.0	48.0	48.3		
11-48-0	Chester	1129	11.0	11.0	48.0	48.5		
11-48-0	Shelby	1134	11.0	12.5	48.0	39.0		
11-48-0	Conrad	1256	11.0	11.3	48.0	48.0		
16-20-0	Laurel	47	16.0	16.0	20.0	20.6		
16-20-0	Laurel	255	16.0	15.9	20.0	19.8		
16-20-0	Shelby	1133	16.0	15.9	20.0	20.4		
16-20-0	Shelby	1142	16.0	15.9	20.0	20.0		
16-20-0	Cut Bank	1153	16.0	15.9	20.0	20.1		
16-20-0	Hamilton	1199	16.0	16.0	20.0	20.1		
16-20-0	Dillon	1204	16.0	16.0	20.0	20.1		
16-20-0	Manhattan	1221	16.0	16.3	20.0	19.7		
16-20-0	Bozeman	1225	16.0	16.0	20.0	20.1		
16-20-0	Bynum	1242	16.0	16.3	20.0	19.6		
16-20-0	Conrad	1257	16.0	16.1	20.0	20.1		
18-46-0	Laurel	49	18.0	18.4	46.0	46.0		
18-46-0	Billings	135	18.0	18.3	46.0	46.0		
18-46-0	Laurel	253	18.0	18.3	46.0	46.0		
18-46-0	Shelby	1135	18.0	18.0	46.0	48.1		
18-46-0	Lewistown	1215	18.0	18.1	46.0	46.9		
18-46-0	Bozeman	1226A	18.0	17.8	46.0	46.72		
18-46-0	Bozeman	1226B	18.0	18.0	46.0	46.4		
18-46-0	Conrad	1255	18.0	16.6	46.0	46.0		
23-23-0	Wibaux	205	23.0	23.1	23.0	23.0		
27-14-0	Billings	139	27.0	27.5	14.0	13.9		
27-14-0	Baker	212	27.0	27.1	14.0	14.1		
27-14-0	Lewistown	1213	27.0	26.7	14.0	15.9		
27-14-0	Dillon	1229	27.0	28.1	14.0	12.8		
29-14-0	Bozeman	1100	29.0	28.9	14.0	15.1		
29-14-0	Hamilton	1200	29.0	29.0	14.0	14.1		
29-14-0	Bozeman	1228	29.0	29.5	14.0	13.6		
29-14-0	Dillon	1230	29.0	29.4	14.0	13.3		
30-10-0	Laurel	50	30.0	30.2	10.0	10.3		
30-10-0	Laurel	256	30.0	30.1	10.0	9.9		

(continued)

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NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	TOTAL NITROGEN Claimed	TOTAL NITROGEN Found	AVAILABLE PHOSPHORIC ACID (P_2O_5) Claimed	AVAILABLE PHOSPHORIC ACID (P_2O_5) Found	SOLUBLE POTASH (K_2O) Claimed	SOLUBLE POTASH (K_2O) Found
NORTHWEST NITRO-CHEMICALS SALES LTD. (Continued)								
30-10-0	Helena	1021	30.0	30.1	10.0	10.0		
30-10-0	Helena	1045	30.0	30.1	10.0	10.3		
33.5-0-0	Laurel	48	33.5	34.2				
33.5-0-0	Miles City	160	33.5	34.2				
34-0-0	Baker	220	34.0	34.1				
34-0-0	Laurel	254	34.0	34.1				
34-0-0	Baker	325	34.0	34.2				
34-0-0	Belgrade	1039	34.0	34.2				
34-0-0	Fort Benton	1088	34.0	34.0				
34-0-0	Bozeman	1101	34.0	34.5				
34-0-0	Chinook	1122	34.0	34.0				
34-0-0	Ulm	1176	34.0	34.1				
34-0-0	Hamilton	1201	34.0	34.1				
34-0-0	Dillon	1205	34.0	34.0				
34-0-0	Manhattan	1222	34.0	34.4				
34-0-0	Bozeman	1227	34.0	34.4				
34-0-0	Bynum	1241	34.0	34.2				
PEAVEY COMPANY PRODUCER SERVICE, 1060 Grain Exchange Building, Minneapolis, Minnesota 55415.								
Peavey 0-45-0	Wibaux	*210			45.0	45.0		
15-15-0	Miles City	*223	15.0	14.3	15.0	14.9		
PEAVEY COMPANY PRODUCER SERVICE, Manhattan, Montana 59741.								
30-10-0 (Blend)	White Sul. Springs	228	30.0	30.1	10.0	10.95		
30-10-0 (Blend)	White Sul. Springs	229	30.0	30.8	10.0	9.28		
PEAVEY COMPANY PRODUCER SERVICE, Miles City, Montana 59301.								
16-24-16 (Blend)	Miles City	224	16.0	17.2	24.0	18.53	16.0	17.5
PEAVEY COMPANY PRODUCER SERVICE, Ronan, Montana 59864.								
15.43-19.28-0 (Blend)	Ronan	2012	15.43	15.96	19.28	20.14		

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PEAVEY COMPANY PRODUCER SERVICE, Sidney, Montana 59270.								
20-25-0 (Blend)	Baker	218	20.0	18.8	25.0	27.4		
PHILLIPS PETROLEUM COMPANY, 316 Adams Building, Bartlesville, Oklahoma 74003.								
Phillips								
32-0-0	Gt.Falls	2015	32.0	31.2				
PURE GAS & CHEMICAL CO., Division of Puregro Company, P. O. Box 22274, 2014 South Pontiac Way, Denver, Colorado 80222.								
Pure-Gro								
0-0-60	Hardin	65					60.0	62.0
20-10-5	Lewistown	1212	20.0	21.8	10.0	11.2	5.0	5.5
SHERRITT FERTILIZERS, INC., 103 Cascade Plaza, 2828 S.W. Corbett Ave., Portland, Oregon 97201.								
Sherritt								
11-48-0	Cut Bank	1151	11.0	11.2	48.0	48.7		
11-48-0	Cut Bank	1248	11.0	11.5	48.0	47.8		
14-14-7	Gt. Falls	1208	14.0	15.7	14.0	12.7	7.0	7.4
21-0-0	Missoula	1191	21.0	21.0				
27-14-0	Gt. Falls	1209	27.0	28.8	14.0	11.5		
33.5-0-0	Cut Bank	*1246	33.5	34.3				
34-0-0	Stanford	1099	34.0	34.0				
34-0-0	Chester	1132	34.0	34.1				
34-0-0	Cut Bank	1152	34.0	34.3				
34-0-0	Valier	1162	34.0	34.1				
34-0-0	Missoula	1190	34.0	33.1				
34-0-0	Valier	1251	34.0	34.2				
J. R. SIMPLOT COMPANY, P. O. Box 912, Pocatello, Idaho 83201.								
Simplot								
0-45-0	Lindsay	91			45.0	45.0		
0-45-0	Billings	112			45.0	44.9		

(continued)

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NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	TOTAL NITROGEN Claimed	TOTAL NITROGEN Found	AVAILABLE PHOSPHORIC ACID (P_2O_5) Claimed	AVAILABLE PHOSPHORIC ACID (P_2O_5) Found	SOLUBLE POTASH (K_2O) Claimed	SOLUBLE POTASH (K_2O) Found
J. R. SIMPLOT COMPANY (Continued)								
0-45-0	Miles City	159			45.0	44.3		
0-45-0	Malta	171			45.0	45.8		
0-45-0	Terry	191			45.0	45.0		
0-45-0	Glendive	202			45.0	45.3		
0-45-0	Absarokee	252			45.0	45.3		
0-45-0	Red Lodge	267			45.0	44.8		
0-45-0	Forsyth	285			45.0	45.0		
0-45-0	Deer Lodge	1026			45.0	44.6		
0-45-0	Fort Benton	1112			45.0	46.2		
0-45-0	Fairfield	1144			45.0	45.0		
0-45-0	Valier	1160			45.0	44.8		
0-45-0	Hamilton	1202			45.0	45.0		
0-45-0	Townsend	1220			45.0	45.4		
0-45-0	Manhattan	1223			45.0	45.0		
0-45-0	Fairfield	1239			45.0	45.4		
11-48-0	Harlowton	20	11.0	11.3	48.0	47.0		
11-48-0	Lindsay	90	11.0	10.8	48.0	49.0		
11-48-0	Glendive	199	11.0	10.8	48.0	48.2		
11-48-0	Wibaux	204	11.0	11.1	48.0	48.4		
11-48-0	Deer Lodge	1025	11.0	11.1	48.0	47.3		
11-48-0	Chinook	1120	11.0	15.0	48.0	48.3		
11-48-0	Valier	1159	11.0	10.85	48.0	50.1		
16-20-0	Hardin	69	16.0	15.7	20.0	20.5		
16-20-0	Hardin	71	16.0	16.2	20.0	20.5		
16-20-0	Billings	113	16.0	16.2	20.0	20.1		
16-20-0	Malta	172	16.0	16.0	20.0	20.4		
16-20-0	Glendive	200	16.0	15.2	20.0	24.5		
16-20-0	Absarokee	251	16.0	15.8	20.0	21.0		
16-20-0	Red Lodge	270	16.0	15.9	20.0	20.2		
16-20-0	Deer Lodge	1024	16.0	16.1	20.0	20.0		
16-20-0	Dillon	1029	16.0	16.0	20.0	21.4		
16-20-0	Fort Benton	1087	16.0	16.1	20.0	20.4		
16-20-0	Bozeman	1103	16.0	15.6	20.0	20.8		
16-20-0	Valier	1157	16.0	16.0	20.0	20.7		
16-20-0	Conrad	1168	16.0	15.8	20.0	21.2		
16-20-0	Deer Lodge	1188	16.0	15.9	20.0	20.7		
16-20-0	Townsend	1218	16.0	16.1	20.0	19.8		
16-20-0	Deer Lodge	1234	16.0	14.6	20.0	29.6		
18-46-0	Harlowton	19	18.0	17.6	46.0	44.8		
18-46-0	Hardin	67	18.0	17.8	46.0	46.6		
18-46-0	Hardin	70	18.0	18.1	46.0	45.9		
18-46-0	Billings	117	18.0	17.8	46.0	46.3		

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NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	TOTAL NITROGEN		AVAILABLE PHOSPHORIC ACID (P_2O_5)		SOLUBLE POTASH (K_2O)	
			Claimed	Found	Claimed	Found	Claimed	Found
J. R. SIMPLOT COMPANY (Continued)								
18-46-0	Billings	124	18.0	17.7	46.0	46.6		
18-46-0	Malta	173	18.0	17.7	46.0	46.7		
18-46-0	Terry	190	18.0	18.1	46.0	46.8		
18-46-0	Glendive	201	18.0	17.4	46.0	46.6		
18-46-0	Wibaux	203	18.0	18.0	46.0	46.3		
18-46-0	Baker	219	18.0	18.0	46.0	46.1		
18-46-0	Red Lodge	268	18.0	18.2	46.0	46.6		
18-46-0	Baker	323	18.0	17.6	46.0	45.9		
18-46-0	Ronan	1072	18.0	18.2	46.0	46.3		
18-46-0	Fort Benton	1085	18.0	18.0	46.0	46.4		
18-46-0	Chinook	1121	18.0	19.0	46.0	46.8		
18-46-0	Valier	1154	18.0	18.1	46.0	46.8		
18-46-0	Valier	1161	18.0	11.59	46.0	47.5		
18-46-0	Conrad	1167	18.0	18.0	46.0	46.8		
18-46-0	Ulm	1174	18.0	18.1	46.0	47.0		
18-46-0	Hamilton	1203	18.0	18.0	46.0	46.0		
18-46-0	Cut Bank	1249	18.0	17.9	46.0	46.3		
21-0-0	Billings	114	21.0	21.0				
25-25-0	Bozeman	1104	25.0	24.9	25.0	23.7		
25-25-0	Valier	1155	25.0	25.0	25.0	25.0		
25-25-0	Conrad	1166	25.0	25.7	25.0	23.5		
25-25-0	Ulm	1175	25.0	24.8	25.0	24.5		
28-14-0	Martins-dale	39	28.0	28.3	14.0	14.1		
28-14-0	Billings	138	28.0	28.0	14.0	16.2		
28-14-0	Dillon	1028	28.0	27.6	14.0	15.5		
28-14-0	Bozeman	1102	28.0	28.2	14.0	14.4		
28-14-0	Valier	1156	28.0	28.6	14.0	14.8		
28-14-0	Dillon	1231	28.0	28.0	14.0	14.2		
30-10-0	Billings	*111	30.0	30.7	10.0	10.2		
33.5-0-0	Hardin	*72	33.5	34.2				
34-0-0	Billings	116	34.0	34.1				
34-0-0	Bozeman	1105	34.0	34.3				
34-0-0	Valier	1158	34.0	34.2				
34-0-0	Ronan	1187	34.0	34.1				

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STAUFFER CHEMICAL COMPANY, 636 California Street, San Francisco, California 94119.								
Stauffer								
0-45-0	Forsyth	225			45.0	45.7		
0-45-0	Bridger	275			45.0	44.8		
0-45-0	Chinook	1125			45.0	45.7		
11-48-0	Joplin	1128	11.0	10.2	48.0	48.3		
16-20-0	Forsyth	227	16.0	15.9	20.0	20.6		
16-20-0	Billings	265	16.0	16.8	20.0	19.7		
16-20-0	Chinook	1126	16.0	15.9	20.0	20.4		
16-20-0	Kalispell	1181	16.0	16.0	20.0	20.0		
18-46-0	Bridger	274	18.0	17.5	46.0	46.2		
27-14-0	Rapelje	242	27.0	29.1	14.0	14.6		
27-14-0	Helena	1211	27.0	29.2	14.0	15.8		
TENNESSEE VALLEY AUTHORITY, Muscle Shoals, Alabama 35660.								
12-40-0	Gt.Falls	*2016	12.0	12.3	40.0	40.6		
USS AGRI-CHEMICALS, Division of United States Steel Corporation, 10 East South Temple, Rm. 1224, Salt Lake City, Utah 84111.								
USS Brand								
0-45-0	Saco	182			45.0	45.3		
24-24-0	Pendroy	1243	24.0	24.7	24.0	23.7		
27-14-0	Merri-weather	1244	27.0	27.9	14.0	16.4		
30-10-0	Harlowton	18	30.0	31.2	10.0	9.5		
30-10-0	Livingston	230	30.0	31.0	10.0	10.0		
34-0-0	Saco	181	34.0	34.5				
34-0-0	Manhattan	1042	34.0	34.7				
34-0-0	Chinook	1127	34.0	34.5				
34-0-0	Helena	1210	34.0	34.6				
US BOROX COMPANY, 307 Wilshire Boulevard, Los Angeles, California.								
US Borox								
0-0-60	Manhattan	*1224					60.0	60.0

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			Claimed	Found	Claimed	Found	Claimed	Found
WASATCH CHEMICAL COMPANY, 2225 South 5th East, Salt Lake City, Utah 84106.								
Morgro								
6-10-4	Billings	231	6.0	9.4	10.0	12.8	4.0	3.2
6-10-4	Gt. Falls	1074	6.0	9.7	10.0	14.1	4.0	4.8
12-6-3	Billings	235	12.0	12.9	6.0	8.1	3.0	3.3
12-6-3	Billings	234	12.0	12.9	6.0	7.8	3.0	3.1
12-6-3	Helena	1046	12.0	17.0	6.0	8.0	3.0	4.6
16-8-4	Billings	233	16.0	14.4	8.0	17.9	4.0	4.8
20-10-5	Billings	232	20.0	22.0	10.0	10.9	5.0	2.3
WYCON CHEMICAL COMPANY, P. O. Box 1087, Colorado Springs, Colorado 80901.								
Wycon								
32-0-0	Red Lodge	271	32.0	31.6				
33.5-0-0	Red Lodge	269	33.5	34.7				
33.5-0-0	Edgar	278	33.5	34.5				
33.5-0-0	Missoula	1047	33.5	34.5				
34-0-0	Hysham	101	34.0	34.5				

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MICRONUTRIENT ANALYSES

NAME AND ADDRESS OF MANUFACTURER BRAND AND NAME OF PRODUCT	PLACE OF COLLECTION	SAMPLE NUMBER	MICRONUTRIENT	CLAIMED	FOUND
CLAUDE J. ALBERS, Box 241, 330 Maple, Lewistown, Montana 59457.					
New Life 0-0-0 Soil Amendment.....	Helena	2008	Calcium	25.0	25.5
COMINCO AMERICAN INCORPORATED, West 818 Riverside Avenue, Spokane, Washington 99201.					
Elephant 10-0-0.....	Billings	105	Zinc	15.0	15.0
			Manganese	1.5	1.8
FRED MEYER, Portland, Oregon 97200.					
Turf King 4-10-8.....	Kalispell	*2010	Zinc	0.1	0.08
			Manganese	0.1	0.012
			Magnesium	0.5	1.59
NORTHLAND CHEMICAL COMPANY, Box 590, East Grand Forks, Minnesota 56721.					
Super Q 16-20-5.....	Wibaux	208	Zinc	0.05	0.41
			Magnesium	0.5	0.34

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COMMERCIAL FEED AND FERTILIZER DIVISION

MONTANA DEPARTMENT OF AGRICULTURE

George Lackman	-	Commissioner, Department of Agriculture, Helena
B. E. Ginther	-	Chemist, Department of Agriculture, Bozeman
L. Torma	-	Asst. Chemist, Department of Agriculture, Bozeman
J. J. Olsen	-	Asst. Chemist, Department of Agriculture, Bozeman
F. A. Frost	-	Secretary, Department of Agriculture, Bozeman
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Alvin Olson	-	Fieldman, Miles City